

Constellations of the Month

Cepheus

Naked Eye Objects:

✓	Name	R.A.	Decl.	Details
	δ Cepheus	.	.	Variable star, period of 5.366 days. Varies from magnitude 3.5 to 4.4
	μ Cepheus	.	.	The "Garnet star" Long term irregular variable red giant. Varies from magnitude 3.6 to 5.1 over a rough period of 755 days. (May also vary in colour.)

Small Scope Objects:

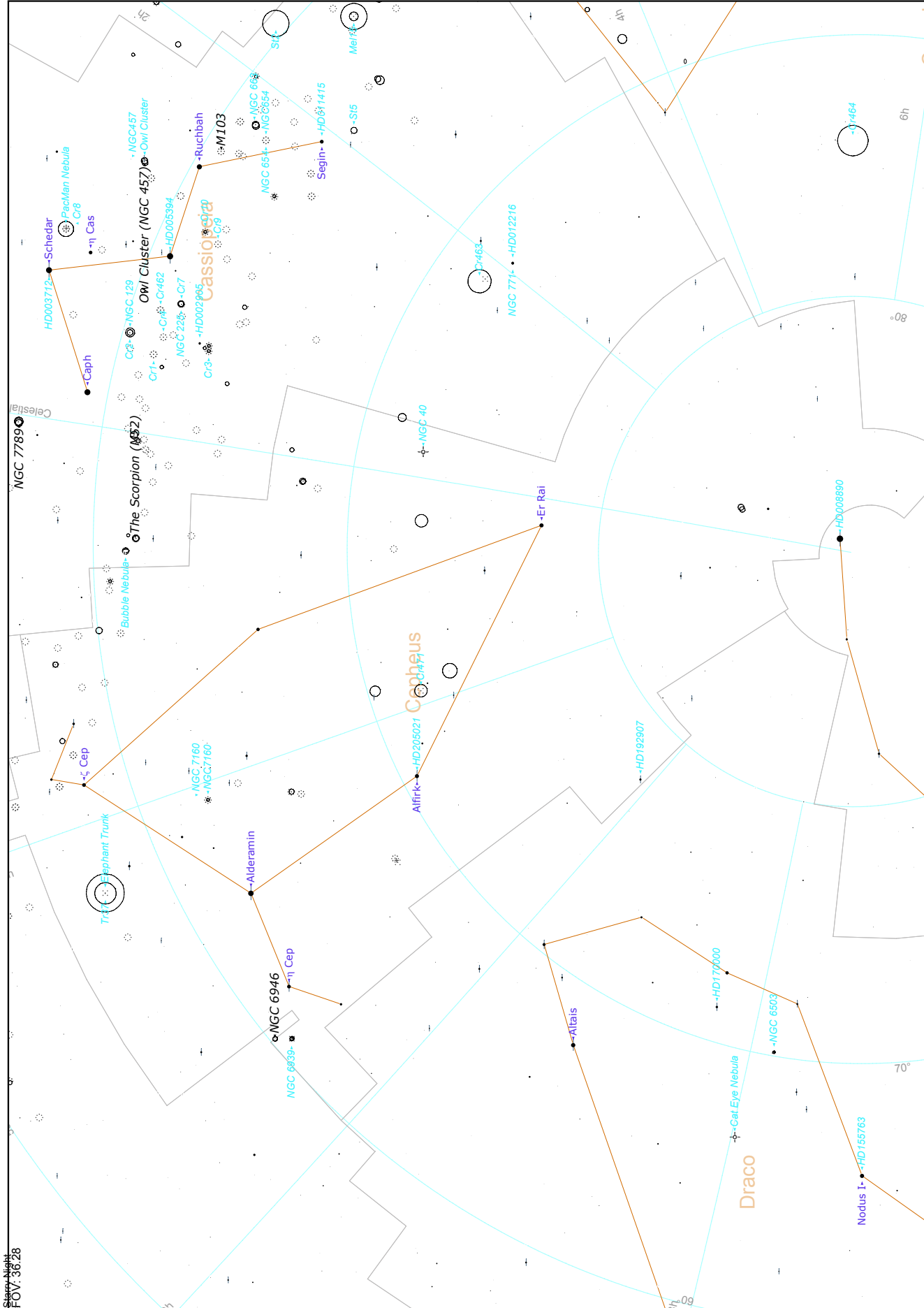
✓	Name	R.A.	Decl.	Details
	NGC 7510	23hr 11.5m	+60° 34'	Open cluster of 60 stars magnitude 9.7 and fainter. Total integrated magnitude 7.9 with a diameter of 4 arc minutes.
	NGC 40 ⁱ	00hr 13.0m	+72° 32'	Bright planetary nebula, 37 arc seconds in size. Magnitude 10.7, with a mag. 11.6 central star. (110NGC)
	NGC 7762	23hr 50m	+68° 02'	Open cluster of 40 stars magnitude 11 and fainter. Total magnitude 10 with a diameter of 11 arc minutes.
	NGC 6939 ⁱ	20hr 31.4m	+60° 38'	Rich open cluster of 80 stars, magnitude 12 and fainter. Magnitude 7.8 with a diameter of 8 arc minutes. (110NGC) Look for galaxy NGC 6946 in the same field.

Big Scope Objects:

✓	Name	R.A.	Decl.	Details
	NGC 6946 ⁱ	20hr 34.8m	+60° 09'	This face-on spiral, near NGC 6939 lies at a distance of 5 Megaparsecs. Measuring 11x9.8 arc minutes has an integrated magnitude of 8.9 (110NGC)
	NGC 7023	21hr 02m	+68° 12'	This faint, featureless reflection nebula measures 18 arc minutes in size and requires good dark skies.
	NGC 188	00hr 44m	+85° 20'	Only 4° from Polaris, this faint open cluster is one of the oldest known at 5 billion years. A difficult cluster to resolve, most of the 120 stars fall between mag 12 and 18.
	IC 1470	23hr 05m	+60° 15'	This small emission nebula measures 70 x 45 arc seconds, with a 12th magnitude star embedded near the center.
	NGC 7129 ⁱ	21hr 42.8m	+66° 06'	Faint reflection nebula around sparse cluster. 7 x 7 arc minutes.

Challenge Objects:

✓	Name	R.A.	Decl.	Details
	IC 1396	21hr 39m	+57° 30'	This emission nebula covers almost six square degrees of sky. On good dark nights appears as a brightening in the milky way. Use lowest magnification or finder with a nebula filter.
	NGC 2276 (ARP 114)	07hr 11m	+85° 52' (1950)	A small Sc spiral. Magnitude 12.4, measuring 2.5 x 2 arc minutes. Look for NGC 2300 in same field.
	NGC 2300 (ARP 25)	07hr 16m	+85° 59' (1950)	A small E2 elliptical galaxy. Mag 12.2, measuring 1.0 x 0.7 arc minutes.



Starry Night
FOV: 36.28

Long: -122° 43' 42" Lat: 53° 55' 09"
2010/10/31 9:24:03 PM (Local)
Limiting Magnitude: 7.0

Viewing from Prince George, Canada
Chart centre (J2000): RA: 22h 18.778m Dec: 74° 9.367'
Altitude: 69° 23.478', Azimuth: 353° 8.101' (north)

- Galaxy
- Globular Cluster
- Cluster
- + Quasar
- Variable
- Multiple
- Planetary

Constellations of the Month

Lacerta

Small Scope Objects:

✓	Name	R.A.	Decl.	Details
	NGC 7209	22hr 05m	+46° 30'	A bright open cluster visible in binoculars. 25 stars cover 25 arc minutes of sky for a total magnitude of 6.7.
	NGC 7243	22hr 15m	+49° 53'	Slightly smaller than NGC 7209, NGC 7243 packs 40 stars into 21 arc minutes and shines a bit brighter at magnitude 6.4.

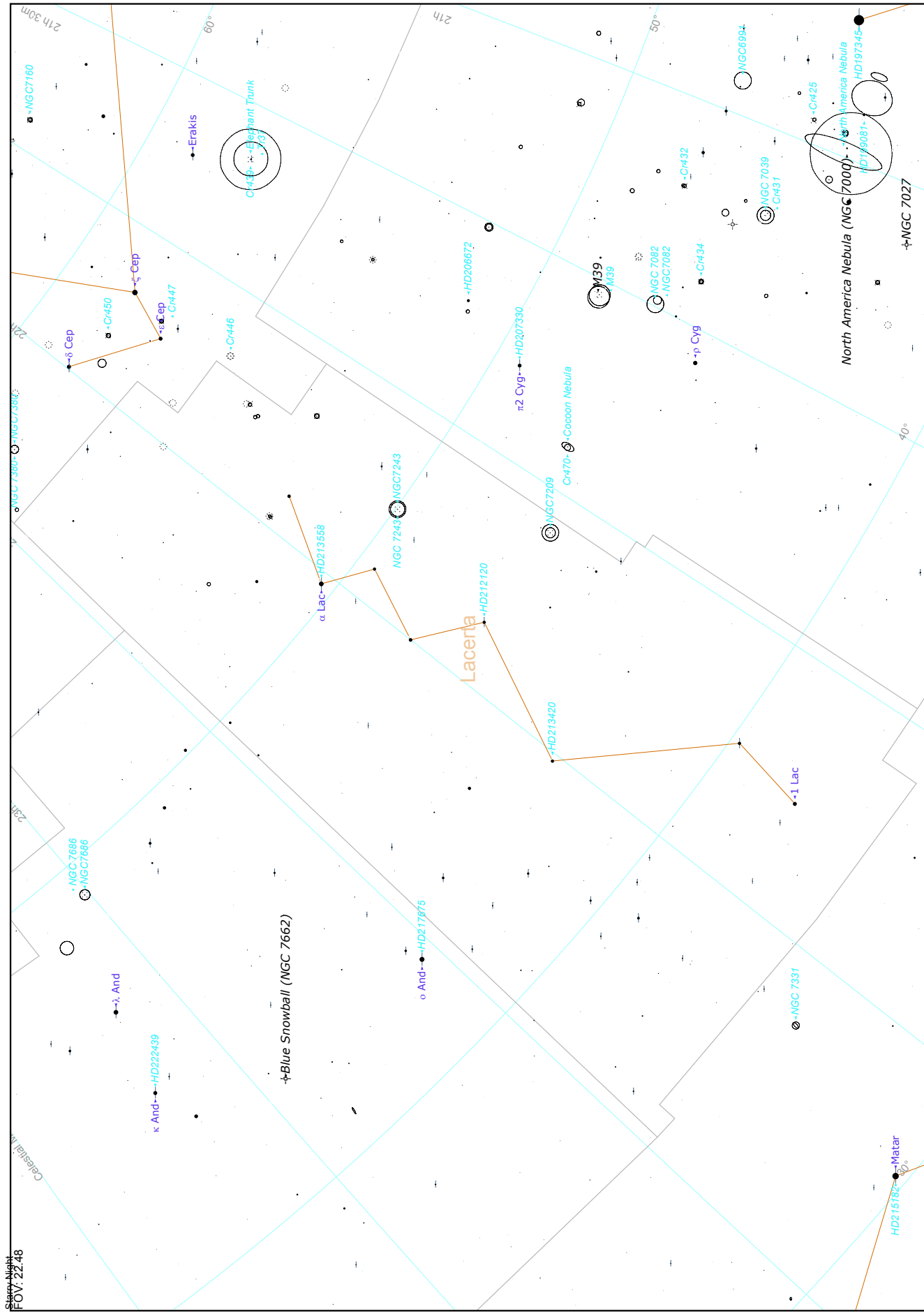
Big Scope Objects:

✓	Name	R.A.	Decl.	Details
	NGC 7245	22hr 15m	+54° 20'	A rich but compact open cluster of 50 faint stars. Only 5 arc minutes in size, magnitude 9.2. Look for cluster King 9 , 10 arc minutes NE.
	IC 1442	22hr 17m	+54° 03'	An open cluster near NGC 7245, appearing as a miniature double cluster in large scopes. 20 faint stars covering about 5 arc minutes of sky, mag. 9.1.
	NGC 7296 (Collinder 452)	22hr 28m	+52° 17'	A loose, faint open cluster, 20 arc minutes in size. 20 stars involved for a total magnitude of 9.7.
	IC 5217	22hr 24m	+50° 58'	A bright but small planetary nebula, only 6 arc seconds in size. Bluish in colour, easy to miss at low power. Mag. 12.6.
	IC 1434 (Collinder 445)	22hr 11m	+52° 50'	A faint but rich open cluster of 40 stars covering 8 arc minutes of sky. Magnitude 9.0, look for a string of 20 stars along the north edge.
	NGC 7223	22hr 10m	+41° 00'	An Sc spiral galaxy, 2.0 x 1.3 arc minutes in size. Mag 13.5.
	NGC 7265 Group	22hr 22m	+36° 14'	Brightest in a group of faint galaxies including NGC 7263, 7264, 7273, 7274 and 7276. Magnitude 13.7, 2.4 x 1.9 arc minutes in size.

Challenge Objects:

✓	Name	R.A.	Decl.	Details
	Abell 79 (PK102-2.1)	22hr 03m	+42° 16'	A faint planetary nebula that demands an OIII filter. Magnitude 15.0, 59 x 49 arc seconds in size.
	M2-53 (PK104-1.1)	22hr 32m	+56° 10'	Brighter and smaller than Abel 79. Magnitude 14.8, but more compact at 14 arc second diameter.

Starry Night
FOV: 22.48



Viewing from Prince George, Canada
Chart centre (J2000): RA: 22h 26.35m Dec: 46° 19.14'
Altitude: 79° 55.584', Azimuth: 225° 46.413' (south west)

Long: -122° 43' 42" Lat: 53° 55' 09"
2010/10/31 9:35:08 PM (Local)
Limiting Magnitude: 8.1

- Galaxy
- Variable
- Globular Cluster
- Cluster
- Quasar
- Multiple
- Planetary

Constellations of the Month

Perseus

Small Scope Objects:

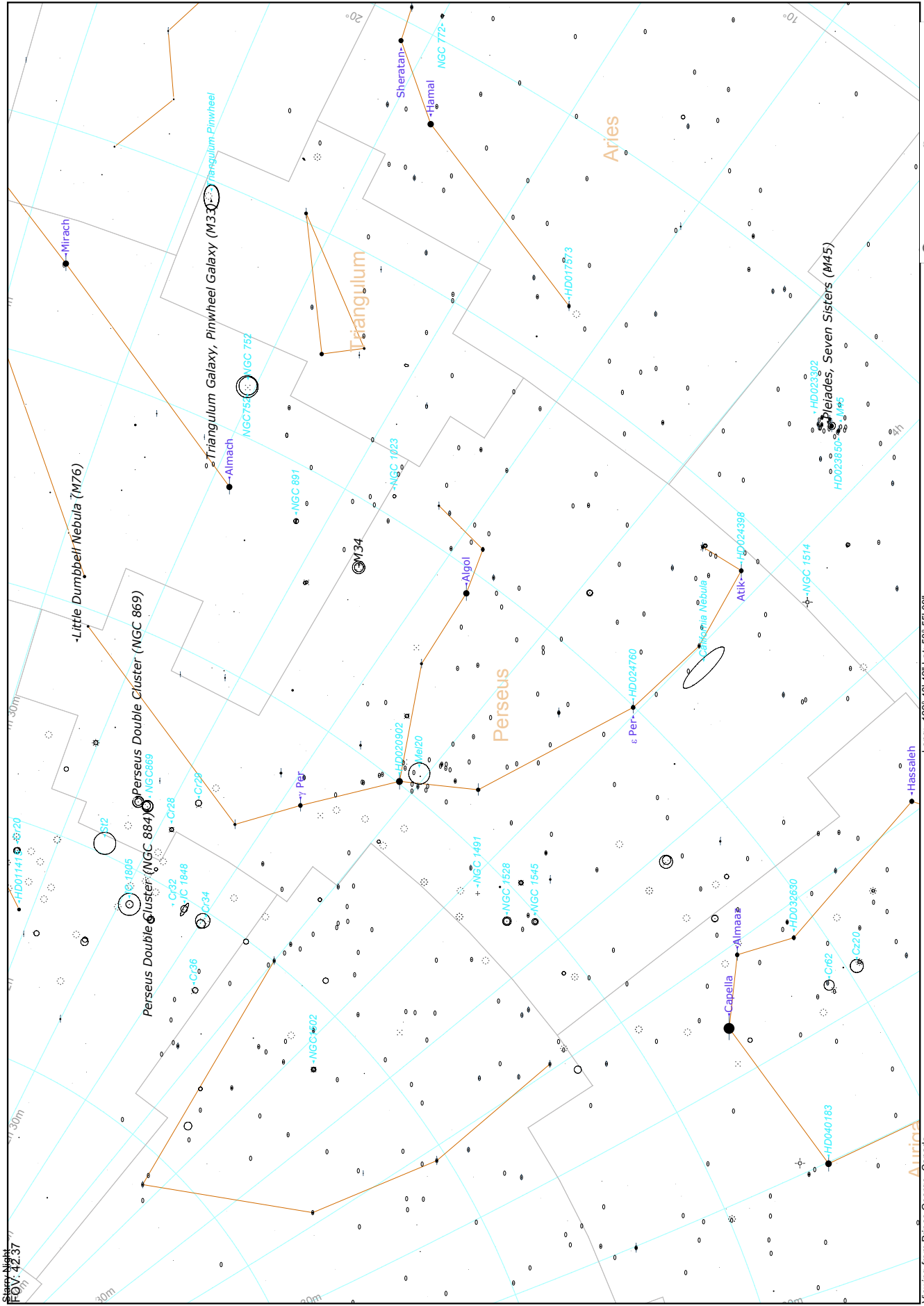
✓	Name	R.A.	Decl.	Details
	β Persei (Algol)	03hr 08m	+40° 57'	The "Demon Star" - an eclipsing variable star. Drops from mag. 2.1 to 3.4 for 10 hours, every 2.86739 days.
	M34 (NGC 1039)	02hr 42.0m	+42° 47'	A bright, rich open cluster, easily visible in binoculars. 80 stars, mag 7 and fainter, 20 arc minutes in size. Integrated magnitude is 5.5.
	NGC 869 ^h and NGC 884 ⁱ	02hr 21.0m	+57° 08'	The "Double Cluster" - two naked eye clusters, separated by about 1/2°. Both clusters contain about 300 stars each, mag. 7 and fainter. Cluster sizes are both 35 arc minutes. NGC 869 is mag 4.4, NGC 884 is mag 4.7. (110NGC)
	NGC 1528	04hr 15m	+51° 15'	Another bright open cluster, 25 arc minutes in size. 80 stars, mag. 8 and fainter. Easy in binoculars, total magnitude of 6.0.

Big Scope Objects:

✓	Name	R.A.	Decl.	Details
	NGC 957	02hr 33m	+57° 31'	Located less than 2° away from The Double Cluster, but smaller and fainter. 40 stars, mag 11 to 15, 10 arc minutes in size. Total magnitude 7.2.
	NGC 1245	03hr 15m	+47° 14'	Another nice open cluster of 40 stars, mag 11 and fainter. 20 arc minutes in diameter. Total magnitude 6.9.
	NGC 1491 ⁱ	04hr 03.4m	+51° 19'	A compact but bright emission nebula, 3x3 arc minutes. (110NGC)
	M76 (NGC 650/51)	01hr 42.4m	+51° 34'	The "Little Dumbbell Nebula" - an 11th magnitude planetary nebula, a smaller version of The "Dumbbell Nebula" in Vulpecula. One of the toughest Messier objects (?) 140 x 70 arc seconds in size with a mag 16.5 central star.
	NGC 1023 ⁱ	02hr 40.4m	+39° 04'	An E7 elliptical galaxy, 4.5 x 1.3 arc minutes. Magnitude 11.0 with high surface brightness. (110NGC)
	NGC 1275	03hr 20m	+41° 31'	"Perseus A" - a 13th mag peculiar galaxy. Difficult to observe with smaller scopes, 0.7 x 0.6 arc minutes in size, 8" scope probably minimum aperture.

Challenge Objects:

✓	Name	R.A.	Decl.	Details
	NGC 1499	04hr 04m	+36° 25'	The "California Nebula" - a large, faint emission nebula, 145 x 40 arc minutes in size. Best observed from dark skies at very low power (8 to 16X) Somewhat less invisible with an H-beta, OIII or UHC filter.



- Galaxy
- ⊙ Globular Cluster
- ⊙ Cluster
- ⊙ Variable
- ⊙ Multiple
- ⊙ Planetary
- ⊙ Quasar

Long: -122° 43' 42" Lat: 53° 55' 09"
 2010/10/31 9:40:05 PM (Local)
 Limiting Magnitude: 6.7

Seeing: 3.0"
 FOV: 42.37°

Viewing from Prince George, Canada
 Chart centre (J2000): RA: 3h 16.666m Dec: 43° 16.44'
 Altitude: 49° 15.273', Azimuth: 78° 56.679' (east)

Constellations of the Month

Pisces

Small Scope Objects:

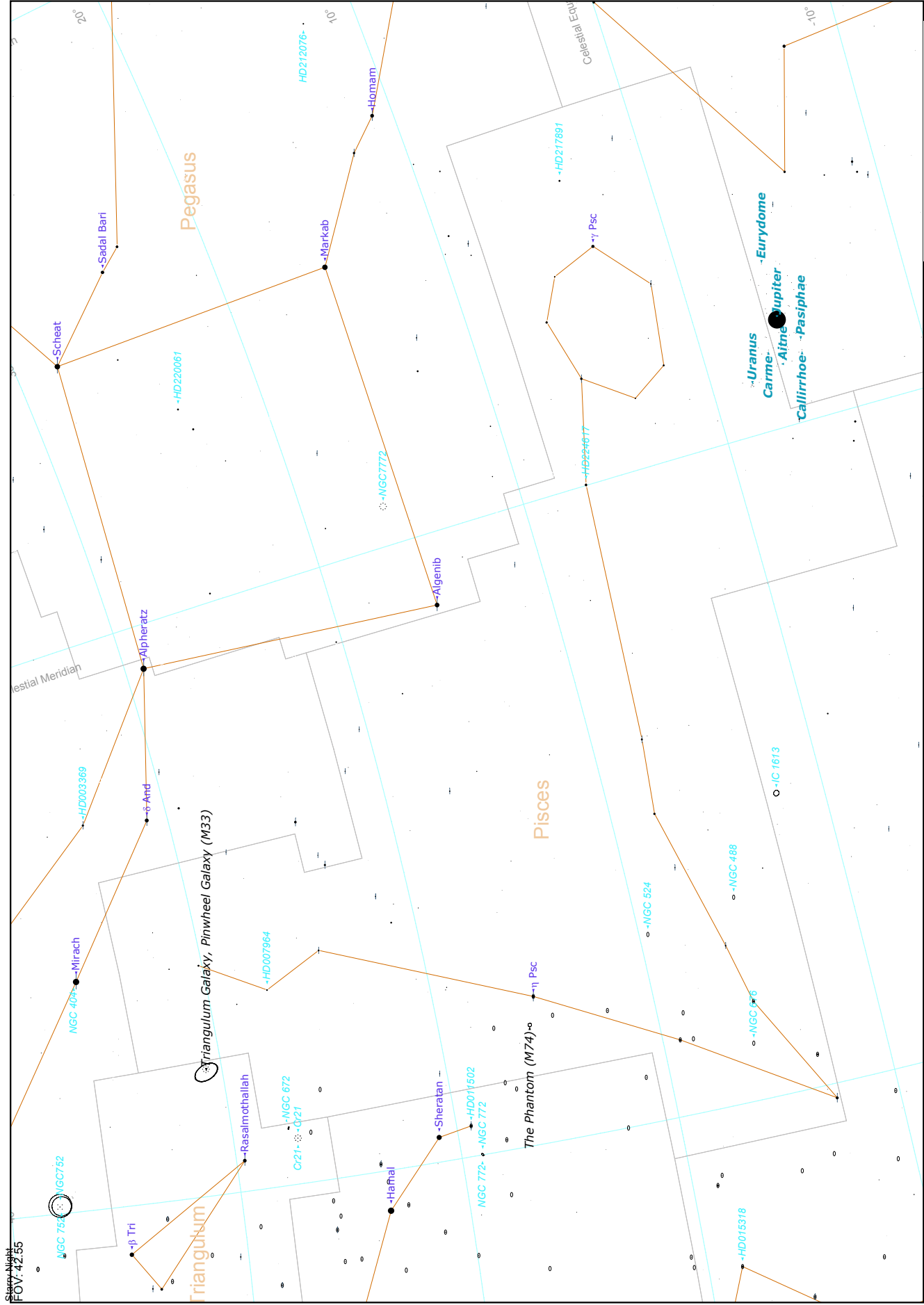
✓	Name	R.A.	Decl.	Details
	Wolf 28 (van Maanen's star)	00hr 49.1m	+05° 25'	One of the closest white dwarf stars to our solar system, at 14.1 light years. Magnitude 12.4 with a proper motion of 2.98 arc seconds/year in position angle 155.5°. Approx. 7800 miles in diameter with a surface temperature of 6000° K.
	α Psc	02hr 02m	+02° 46'	A close double star with a separation of 1.5 arc seconds. Magnitudes 4.33 and 5.23 at a distance of 130 light years with an orbital period of 720 years. Pale green and blue in colour.
	ζ Psc	01hr 14m	+07° 35'	An easy, colourful double star, magnitudes 6.6 and 6.2, separated by 23 arc seconds. Primary star is yellowish, the secondary pale lilac. 140 light years distant.
	M74 (NGC 628)	01hr 36.7m	+15° 47'	A large face-on Sc spiral galaxy, probably the most difficult of the Messier objects. Magnitude 9.2, covering 10.2 x 9.5 arc minutes giving low surface brightness. Discovered by Pierre Mechain in September 1780, and sighted by Messier one month later.

Big Scope Objects:

✓	Name	R.A.	Decl.	Details
	NGC 514	01hr 24m	+12° 55'	A small Sc spiral a few degrees SW of M74. Magnitude 11.9, 3.5 x 2.9 arc minutes in size. Visible in a 3" scope under good conditions.
	NGC 488	01hr 22m	+05° 15'	A reasonably bright face-on Sb spiral, magnitude 10.3. Located about 8° due south of NGC 514, it measures 5.2 x 4.1 arc minutes. Faint spiral arms, but a very bright nucleus.
	NGC 520	01hr 25m	+04° 44'	An irregular galaxy, located within a degree of NGC 488. 3 x 1 arc minutes, magnitude 11.2. Unusual mottling and shape is visible in larger scopes.
	NGC 470	01hr 20m	+03° 25'	An Sc spiral similar in appearance to NGC 514. 3 x 2 arc minutes, magnitude 11.9. Look for NGC 474, a 0.4' 13th mag. lenticular galaxy in the same field.
	NGC 7541	23hr 15m	+04° 32'	An Sc spiral located near the western "fish head". 12th magnitude, 3.5 x 1.4 arc minutes. Visible with a 6 inch at low power under good skies. Look for NGC 7537 in the same low power field.

Challenge Objects:

✓	Name	R.A.	Decl.	Details
	NGC 383 Group	01hr 07m	+32° 25'	A group of a dozen or so galaxies, located near M33. Ranging in size from 0.4 x 0.4 arc minutes to 2.3 x 1.9, with magnitudes ranging from 11.9 to 15.7.
	NGC 507 Group	01hr 24m	+33° 15'	Another group of 14 or so galaxies near M33. 4 x 4 arc minutes and smaller, magnitudes 13 to 15.2.



Viewing from Prince George, Canada
Chart centre (J2000): RA: 0h 23.600m Dec: 14° 26.793'
Altitude: 48° 7.473'; Azimuth: 153° 19.166' (south east)

Long: -122° 43' 42" Lat: 53° 55' 09"
2010/10/31 9:41:29 PM (Local)
Limiting Magnitude: 6.7

Legend:
○ Globular Cluster
○ Cluster
+ Quasar
○ Variable
→ Multiple
○ Planetary
○ Galaxy